

CLAIMS

1. A card access apparatus that is adapted to be connected to a plurality of types of cards, the apparatus  
5 comprising:

a plurality of connection points adapted for the respective types of cards; and

a plurality of signal buses that connects the connection points to a card control unit;

10 wherein when one type of the types of cards is connected to one of the connection points adapted for said one type of the types of cards, at least one of the signal buses connected to at least one of the connection points adapted for at least one other type of the types of cards is electrically  
15 isolated from said at least one of the connection points.

2. The card access apparatus as claimed in claim 1, further comprising:

an isolator that is configured to electrically  
20 isolate said at least one of the signal buses connected to said at least one of the connection points adapted for said at least one other type of the types of cards from said at least one of the connection points;

wherein when said one type of the types of cards is  
25 not connected to said one of the connection points adapted for

said one type of the types of cards, the isolator is arranged to be in an open state.

3. The card access apparatus as claimed in claim 2,  
5 wherein

when said one type of the types of cards is connected to said one of the connection points adapted for said one type of the types of cards, the isolator is arranged to be in a closed state.

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4. The card access apparatus as claimed in claim 2, wherein

the isolator realizes a separate circuit with respect to the card control unit.

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5. The card access apparatus as claimed in claim 2, wherein

the isolator is integrated into the card control unit.

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6. The card access apparatus as claimed in claim 2, wherein

said one type of the types of cards includes a metal plate having an insulator coating applied thereon; and

25

the isolator is provided for said at least one of

the signal buses connected to said at least one of the connection points adapted for said at least one other type of the types of cards when there is a risk of a short circuit occurring at said at least one of the connection points

5 adapted for said at least one other type of the types of cards upon connecting said one type of the types of cards to said one of the connection points adapted for said one of the types of cards.

10 7. The card access apparatus as claimed in claim 2, wherein

said one type of the types of cards is connected to said one of the connection points adapted for said one type of the types of cards by a connecting unit that includes a metal  
15 plate having an insulator coating applied thereon; and

the isolator is provided for said at least one of the signal buses connected to said at least one of the connection points adapted for said at least one other type of the types of cards when there is a risk of a short circuit  
20 occurring at said at least one of the connection points adapted for said at least one other type of the types of cards upon connecting said one type of the types of cards to said one of the connection points adapted for said one type of the types of cards.

8. The card access apparatus as claimed in claim 2,  
wherein

the signal buses include a plurality of card  
detection signal buses for the respective types of cards; and

5 when at least one card detection signal of at least  
one of the card detection signal buses for at least one of the  
types of cards is set to a non-detection state, and the  
isolator is provided for at least one of the signal buses  
associated with said at least one of the types of cards, the  
10 isolator is arranged to be in an open state.

9. The card access apparatus as claimed in claim 8,  
wherein

when said at least one card detection signal of  
15 said at least one of the card detection signal buses is set to  
a card detection state, the isolator is arranged to be in a  
closed state.

10. The card access apparatus as claimed in claim  
20 8, wherein

the signal buses include at least one power circuit  
signal bus, and the isolator is provided for said at least one  
power circuit signal bus; and

the card control unit controls a power circuit and  
25 the isolator to secure a predetermined access period upon

detecting a card detection signal state change from a card detection state to a non-detection state in one of the card detection signal buses.

5                   11. The card access apparatus as claimed in claim 8 wherein

the signal buses include at least one power circuit signal bus, and the isolator is provided for said at least one power circuit signal bus; and

10                   the card control unit controls a power circuit to prevent access upon detecting a card detection signal state change from a card detection state to a non-detection state in one of the card detection signal buses.

15                   12. An electronic apparatus comprising:

a card access apparatus that is adapted to be connected to a plurality of types of cards, the apparatus including a plurality of connection points adapted for the respective types of cards, and a plurality of signal buses

20 that connects the connection points to a card control unit;

wherein when one type of the types of cards is connected to one of the connection points adapted for said one type of the types of cards, at least one of the signal buses connected to at least one of the connection points adapted for  
25 at least one other type of the types of cards is electrically

isolated from said at least one of the connection points.